

Wireless Power Module, 2W 1.5 - 1.6 GHz

PHA1516-2

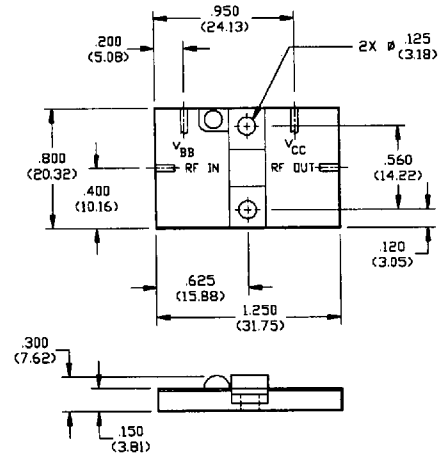
V2.00

Features

- Designed for Cellular Base Station Applications
- Input and Output Matched to 50Ω
- Class AB: -33 dBc Typ 3rd IMD at 2 Watts PEP
- Thermally Tracking Bias Diode Included
- Plated Copper Flange

Absolute Maximum Ratings at 25°C

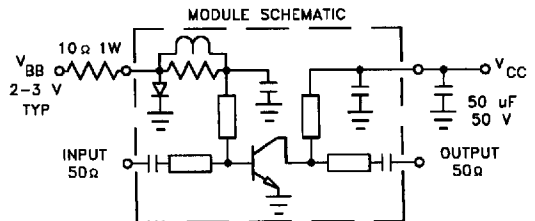
Parameter	Symbol	Rating	Units
Supply Voltage	V_{CC}	28	V
Input Power	P_{IN}	0.3	W
Output Power	P_{OUT}	3.0	W
Thermal Resistance	θ_{JC}	13	°C/W
Power Dissipation	P_D	13.5	W
Operating Case Temp.	T_C	-30 to +100	°C
Storage Temperature	T_{STG}	-40 to +125	°C
Collector Quiescent Current	I_{CQ}	100	mA



UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±0.005" (MILLIMETERS ±0.13MM)

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Output Power	P_{OUT}	2	-	W	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{IN}=0.2\text{ W}$, $F=1.50\text{-}1.60\text{ GHz}$
Power Gain	G_P	10	-	dB	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{OUT}=2\text{ W}$, $F=1.50\text{-}1.60\text{ GHz}$
Collector Efficiency	η_c	35	-	%	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{OUT}=2\text{ W}$, $F=1.50\text{-}1.60\text{ GHz}$
Input VSWR	VSWR	-	2:1	-	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{OUT}=2\text{ W}$, $F=1.50\text{-}1.60\text{ GHz}$
Load VSWR Tolerance	VSWR-T	-	5:1	-	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{OUT}=2\text{ W}$, $F=1.50\text{-}1.60\text{ GHz}$
3rd Order IMD	IMD_3	-	-32	-	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{OUT}=2\text{ W PEP}$, $F=1600$, $\Delta F=100\text{ kHz}$
2nd Harmonic	2fc	-	-20	dBc	$V_{CC}=25\text{ V}$, $I_{CQ}=25\text{ mA}$, $P_{OUT}=2\text{ W}$, $F=1.50\text{-}1.60\text{ GHz}$



M/A-COM, Inc.

Specifications Subject to Change Without Notice.

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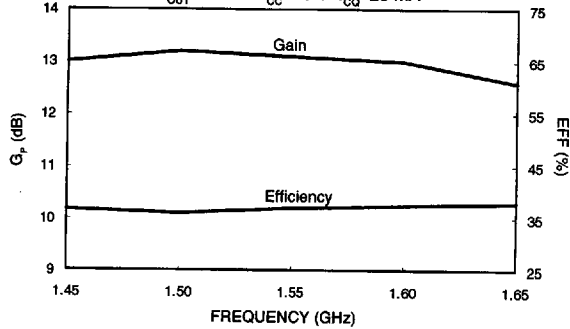
Europe: Tel. +44 (1344) 869 595
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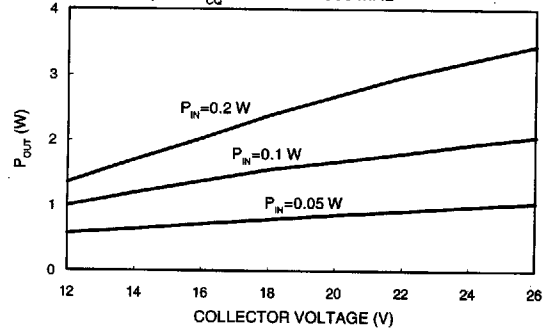
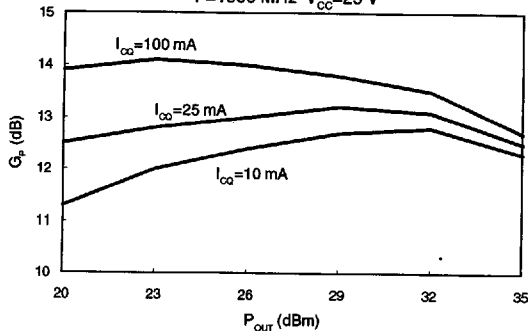
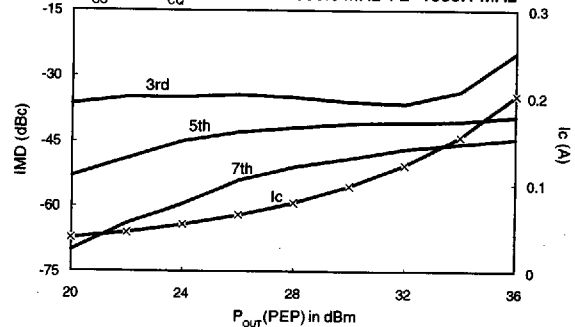
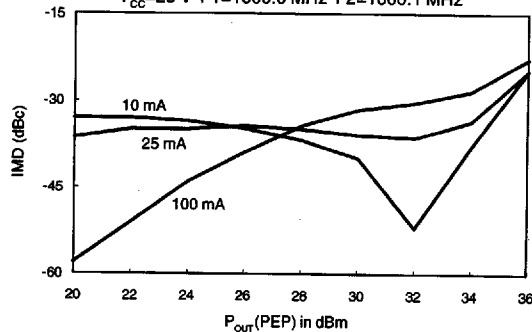
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Typical Broadband Performance Curves

GAIN-EFFICIENCY vs FREQUENCY

 $P_{out}=2.0\text{ W}$ $V_{cc}=25\text{ V}$ $I_{cc}=25\text{ mA}$ 

OUTPUT POWER vs COLLECTOR VOLTAGE

 $I_{cc}=25\text{ mA}$ $F=1600\text{ MHz}$ GAIN vs P_{out}
 $F=1600\text{ MHz}$ $V_{cc}=25\text{ V}$ IMD vs P_{out} $V_{cc}=25\text{ V}$ $I_{cc}=25\text{ mA}$ $F_1=1600.0\text{ MHz}$ $F_2=1600.1\text{ MHz}$ 3RD ORDER IMD vs P_{out} $V_{cc}=25\text{ V}$ $F_1=1600.0\text{ MHz}$ $F_2=1600.1\text{ MHz}$ 

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10-8

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